UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
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2167	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/779,355	PATTERSON ET AL.
	Examiner	Art Unit
	Kimberly Lovel	2167

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 October 2007*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,2,4-8 and 10-20* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *, 2, 4-8 and 10-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1, 2, 4-8 and 10-20. Claims 3 and 9 have been canceled.

Continued Examination Under 37 CFR 1.114

2.   A request for continued examination under 37 CFR 1.114, including the

fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection.

Since this application is eligible for continued examination under 37 CFR 1.114,

and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the

previous Office action has been withdrawn pursuant to 37 CFR 1.114.

Applicant's submission filed on 11 October 2007 has been entered.

Claim Objections

3.   Claims 16, 17, 19 and 20 are objected to because of the following

informalities: The claims utilize the term "decomposer/recomposer." It is unclear

whether the claim requires a decomposer and a recomposer or if the claim

merely requires one or the other. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.   Claims 5 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The phrase "such as" renders the claims indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

6.   To allow for compact prosecution, the examiner will apply prior art to these claims as best understood, with the assumption that applicant will amend to overcome the stated 112 rejections.

Claim Rejections - 35 USC § 101

7.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

8.   **Claims 15-20** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 15 is directed towards an apparatus. However, the apparatus comprises an interface agent, a composite data stream decomposer/recomposer and a segment reuse storage system. According to [0030] of Applicants' Specification, the interface agent can be implemented as a module. According to [0026] of Applicants' Specification, a composite data stream decomposer/recomposer can be implemented as software, hardware or a combination of software and hardware. The specification fails to state or depict in the drawings that the segment reuse storage system includes the necessary required hardware. Therefore, since the elements of the apparatus can each be interpreted as software per se and therefore the apparatus can be interpreted as comprising entirely of software per se according to one of ordinary skill in the art. The claim language fails to provide the necessary hardware required for the claim to fall within the statutory category of an apparatus.

According to MPEP 2106:

> The claims lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC 101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. As such, they fail to fall within a statutory category. They are, at best, functional descriptive material per se.

Descriptive material can be characterized as either "functional descriptive material" or "nonfunctional descriptive material." Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994)

Merely claiming nonfunctional descriptive material, i.e., abstract ideas, stored on a computer-readable medium, in a computer, or on an electromagnetic carrier signal, does not make it statutory. See Diehr, 450 U.S. at 185-86, 209 USPQ at 8 (noting that the claims for an algorithm in Benson were unpatentable as abstract ideas because "[t]he sole practical application of the algorithm was in connection with the programming of a general purpose computer.").

Since **claims 16-29** are dependent on claim 15, the claims are rejected on the same grounds as claim 15.

To allow for compact prosecution, the examiner will apply prior art to these claims as best understood, with the assumption that applicant will amend to overcome the stated 101 rejections.

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10.   **Claims 1, 2, 4-8, and10-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over US PGPub 2007/0124794 to Marko et al (hereafter Marko) in view of US Patent No 5,559,991 to Kanfi (hereafter Kanfi).**

Referring to claim 1, Marko discloses a computer implemented method

for storing data comprising:

receiving a composite data stream from a server [programming center 20]

(see [0021]);

storing the received composite data stream so that it may be restored

[playback] (see [0027]), said storing including,

decomposing the composite data stream into a plurality of constituent data

streams [demultiplex a received composite data stream] (see [0021], lines 12-

14), the plurality of constituent data streams including at least a first constituent

data stream of user data [i.e., live talk segments 32] and a second constituent

data stream of administrative data [i.e., data 42 which provides instructions to

receivers 14 to playback selected ones of locally stored content segments] (see

[0025], lines 1-6); and

segmenting at least one of the plurality of constituent data streams

decomposed from the composite data stream (see [0029]).

Marko discloses updating the content segments 48 stored in the local

storage device 50 (see [0050]). However, Marko fails to explicitly disclose the

further limitations of comparing segments resulting from the segmenting to

determine those segments already stored as a result of storing a previous one of

said plurality of composite data streams and discarding those of the segments

resulting from said segmenting which are determined to have been stored

previously. Kanfi discloses dividing a file into segments and storing each

segment (see abstract), including the further limitations of comparing segments

resulting from the segmenting to determine those segments already stored as a result of storing a previous one of said plurality of composite data streams (see column 4, lines 24-36); and discarding those of the segments resulting from said segmenting which are determined to have been stored previously (see column 4, lines 37-48).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the steps for storing a segment only once as disclosed by Kanfi with the storage of Marko. One would have been motivated in order to increase storage efficiency by eliminating redundant data.

Referring to claim 2, the combination of Marko and Kanfi (hereafter Marko/Kanfi) discloses the computer implemented method of claim 1, wherein said decomposing includes: storing a composite data stream map [control signals] that indicates how to recompose the plurality of constituent data streams into the composite data stream (Marko: see [0029]).

Referring to claim 4, Marko/Kanfi discloses the computer implemented method of claim 1, wherein said storing further comprises: determining the first of said plurality of constituent data streams is administrative data that may be restored by regeneration rather than being stored; and discarding said first constituent data stream (Kanfi: see column 14, lines 49-67).

Referring to claim 5, Marko/Kanfi discloses the computer implemented method of claim 4 wherein the administrative data is tape markers and/or header information, such as time stamps [time stamps] (Kanfi: see column 14, lines 49-67).

Referring to claim 6, Marko/Kanfi discloses the computer implemented

method of claim 1 wherein the storing comprises segmenting each of the plurality

of constituent data streams (Marko: see [0029]).

Referring to claim 7, Marko discloses a computer implemented method

for efficiently storing data comprising:

receiving a plurality of composite data streams from a server

[programming center 210] (see [0021]); and

storing each of said plurality of composite data streams so that it may be

restored [playback] (see [0027]), said storing including, and

decomposing the composite data stream into a plurality of constituent data

streams [demultiplex a received composite data stream] (see [0021], lines 12-

14), the plurality of constituent data streams including at least a first constituent

data stream of user data [i.e., live talk segments 32] and a second constituent

data stream of administrative data [i.e., data 42 which provides instructions to

receivers 14 to playback selected ones of locally stored content segments] (see

[0025], lines 1-6.

Marko discloses segmenting the constituent data streams (see [0029])

and updating the content segments 48 stored in the local storage device 50 (see

[0050]). However, Marko fails to explicitly disclose the further limitations of

receiving the plurality of composite data streams over time; wherein the

composite data streams represent snapshots of data residing at a set of one or

more sources taken over said time; and storing using segment reuse a set of one

or more of said plurality of constituent data streams, said storing using segment

reuse including performing the following for each of said set of constituent data

streams, segmenting the constituent data stream, determining which segments

resulting from the segmenting are already stored as a result of storing a previous

one of the plurality of composite data streams, and storing only those segments

of the constituent data stream that cannot be restored using segments already

stored as a result of storing a previous one of said plurality of composite data

streams. Kanfi discloses dividing a file into segments and storing each segment

(see abstract), including the further limitations of receiving the plurality of

composite data streams over time (see column 4, lines 7-14); wherein the

composite data streams represent snapshots [latest version of a file] of data

residing at a set of one or more sources taken over said time (see column 4,

lines 7-14); storing using segment reuse a set of one or more of said plurality of

constituent data streams (see column 1, lines 43-48), said storing using segment

reuse including performing the following for each of said set of constituent data

streams, segmenting the constituent data stream (see column 2, line 50 –

column 3, line 5), determining which segments resulting from the segmenting are

already stored as a result of storing a previous one of the plurality of composite

data streams (see column 4, lines 24-36), and storing only those segments of the

constituent data stream that cannot be restored using segments already stored

as a result of storing a previous one of said plurality of composite data streams

(see column 4, lines 37-48).

It would have been obvious to one of ordinary skill in the art at the time of

the invention to utilize the steps for storing a segment only once as disclosed by

Kanfi with the storage of Marko. One would have been motivated in order to increase storage efficiency by eliminating redundant data.

Referring to claim 8, Marko/Kanfi discloses the computer implemented method of claim 7, wherein said decomposing includes: storing a composite data stream map [control signals] that indicates how to recompose the plurality of constituent data streams into the composite data stream (Marko: see [0029]).

Referring to claim 10, Marko/Kanfi discloses the computer implemented method of claim 1, wherein said storing each of said plurality of composite data streams further comprises: determining the first of said plurality of constituent data streams is administrative data that may be restored by regeneration rather than being stored; and discarding said first constituent data stream (Kanfi: see column 4, lines 49-67).

Referring to claim 11, Marko/Kanfi discloses the computer implemented method of claim 10, wherein the administrative data is tape markers and/or header information, such as time stamps [time stamps] (Kanfi: see column 4, lines 49-67).

Referring to claim 12, Marko discloses a computer implemented method for storing data comprising:

receiving a composite data stream from a server [programming center 20] (see [0021]);

storing the received composite data stream so that it may be restored [playback] (see [0027]), said storing including, and

decomposing the composite data stream into a plurality of constituent data

streams [demultiplex a received composite data stream] (see [0021], lines 12-

14), the plurality of constituent data streams including at least a first constituent

data stream of user data [i.e., live talk segments 32] and a second constituent

data stream of administrative data [i.e., data 42 which provides instructions to

receivers 14 to playback selected ones of locally stored content segments] (see

[0025], lines 1-6).

Marko discloses segmenting the constituent data streams (see [0029])

and updating the content segments 48 stored in the local storage device 50 (see

[0050]). However, Marko fails to explicitly disclose the further limitations of

receiving the plurality of composite data streams from a backup server and

backing up each of said plurality of constituent data streams separately, said

backing up including, applying segment reuse to back up a first set of one or

more of said plurality of constituent data streams, including, segmenting at least

one of the plurality of constituent data streams decomposed from the composite

data stream; determining segments resulting from the segmenting that are

already stored as a result of storing a previous one of the plurality of composite

data streams; and storing only those segments that are not already stored. Kanfi

discloses dividing a file into segments and storing each segment (see abstract),

including the further limitations of receiving the plurality of composite data

streams from a backup server (see column 1, lines 33-42) and backing up each

of said plurality of constituent data streams separately, said backing up including,

applying segment reuse to back up a first set of one or more of said plurality of

constituent data streams (see column 1, lines 43-48), including, segmenting at least one of the plurality of constituent data streams decomposed from the composite data stream (see column 2, line 50 – column 3, line 5); determining segments resulting from the segmenting that are already stored as a result of storing a previous one of the plurality of composite data streams (see column 4, lines 24-36); and storing only those segments that are not already stored (see column 4, lines 37-48).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the steps for storing a segment only once as disclosed by Kanfi with the storage of Marko. One would have been motivated in order to increase storage efficiency by eliminating redundant data.

Referring to claim 13, Marko/Kanfi discloses the computer implemented method of claim 12, wherein said decomposing includes: storing a composite data stream map [control signals] that indicates how to recompose the plurality of constituent data streams into the composite data stream (Marko: see [0029]).

Referring to claim 14, Marko/Kanfi discloses the computer implemented method of claim 13, wherein said backing up includes: discarding a second set of one or more of said plurality of constituent data streams because they are administrative data that may be restored using regeneration as opposed to storage (Kanfi: see column 4, lines 49-67).

Referring to claim 15, Marko discloses an apparatus to back up data comprising:

an interface agent to receive a plurality of composite data streams from a

server [programming center 210] (see [0021]); and

a composite data stream decomposer/recomposer, coupled to a interface

agent, to decompose composite data streams into their constituent data streams

[demultiplex a received composite data stream] (see [0021], lines 12-14), the

constituent data streams including at least a first constituent data stream of user

data [i.e., live talk segments 32] and a second constituent data stream of

administrative data [i.e., data 42 which provides instructions to receivers 14 to

playback selected ones of locally stored content segments] (see [0025], lines 1-6.

Marko discloses segmenting the constituent data streams (see [0029])

and updating the content segments 48 stored in the local storage device 50 (see

[0050]). However, Marko fails to explicitly disclose the further limitations of

receiving the plurality of composite data streams over time; wherein the

composite data streams represent snapshots of data residing at a set of one or

more sources taken over said time; and storing using segment reuse a set of one

or more of said plurality of constituent data streams, said storing using segment

reuse including performing the following for each of said set of constituent data

streams, segmenting the constituent data stream, determining which segments

resulting from the segmenting are already stored as a result of storing a previous

one of the plurality of composite data streams, and storing only those segments

of the constituent data stream that cannot be restored using segments already

stored as a result of storing a previous one of said plurality of composite data

streams. Kanfi discloses dividing a file into segments and storing each segment

(see abstract), including the further limitations of receiving the plurality of composite data streams over time (see column 4, lines 7-14); wherein the composite data streams represent snapshots [latest version of a file] of data residing at a set of one or more sources taken over said time (see column 4, lines 7-14); storing using segment reuse a set of one or more of said plurality of constituent data streams (see column 1, lines 43-48), said storing using segment reuse including performing the following for each of said set of constituent data streams, segmenting the constituent data stream (see column 2, line 50 – column 3, line 5), determining which segments resulting from the segmenting are already stored as a result of storing a previous one of the plurality of composite data streams (see column 4, lines 24-36), and storing only those segments of the constituent data stream that cannot be restored using segments already stored as a result of storing a previous one of said plurality of composite data streams (see column 4, lines 37-48).

It would have been obvious to one of ordinary skill in the art at the time of the invention to utilize the steps for storing a segment only once as disclosed by Kanfi with the storage of Marko. One would have been motivated in order to increase storage efficiency by eliminating redundant data.

Referring to claim 16, Marko/Kanfi discloses the apparatus of claim 15 further comprising: a map file storage [control signals], coupled to said composite data stream decomposer/recomposer, to store data indicating how to recompose composite data streams from their constituent data streams (Marko: see [0029]).

Referring to claim 17, Marko/Kanfi discloses the apparatus of claim 15

further comprising: an administrative data regenerator, coupled to said composite

data stream decomposer/recomposer, to regenerate data from constituent data

streams that was not stored because that data could be restored by regeneration

(Kanfi: see column 4, lines 49-67).

Referring to claim 18, Marko/Kanfi discloses the apparatus of claim 17

wherein the administrative data is regenerated in accordance with composite

data stream attribute data retrieved from a configuration file (Kanfi: see column 4,

lines 49-67).

Referring to claim 19, Marko/Kanfi discloses the apparatus of claim 15

wherein the composite data stream decomposer/recomposer is a machine-

readable medium having stored thereon a set of instructions, which when

executed by a set of one or more processors, cause the operations of the

composite data stream decomposer/recomposer to be performed (Marko: see

[0027]).

Referring to claim 20, Marko/Kanfi discloses the apparatus of claim 15

wherein the composite data stream decomposer/recomposer is an application

specific integrated circuit [RAM, Flash] (Marko: see [0027]).

Response to Arguments

11.   Applicant's arguments with respect to claims 1, 2, 4-8 and 10-20 have

been considered but are moot in view of the new ground(s) of rejection.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kimberly Lovel whose telephone number is (571) 272-2750. The examiner can normally be reached on 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Cottingham can be reached on (571) 272-7079. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Kimberly Lovel
Examiner
Art Unit 2167

6 January 2008
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